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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-------------------------|---------------------|------------------|
| 09/925,885 | 08/01/2001 | Sterling Eduard McBride | SAR/14049 | 6195 |
| 28166 | 7590 | 06/15/2004 | EXAMINER | |
| MOSER, PATTERSON & SHERIDAN, LLP /SARNOFF CORPORATION 595 SHREWSBURY AVENUE SUITE 100 SHREWSBURY, NJ 07702 | | | WOOD, KEVIN S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2874 | |

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,885

Applicant(s)

MCBRIDE ET AL.

Examiner

Kevin S Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9 and 11-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Brian Healy

DETAILED ACTION

Response to Amendment

1. This action is responsive to the Applicant's Amendment filed on 9 July 2003. Claims 2-4, 6-9, 11, 12, and 15-17 are amended. Claims 1 and 10 are cancelled. No new claims have been added. Claims 2-9 and 11-17 are pending in the application.
2. Based on the Applicant's Amendment, the rejection of claim 2 under 35 U.S.C. 112, second paragraph, is withdrawn and the objections to the drawings are withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 2-9 and 11-17 have been considered but are moot in view of the new ground(s) of rejection.

Improper Claim

4. Claim 2 is improper because of the following informalities: Claim 2 depends from claim 6. Claims are required to be dependent from preceding claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 3, 6, 7, 11-13, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,699,462 to Fouquet et al.

Referring to claims 3 and 11, Fouquet et al. discloses all the limitations of the claimed invention. Fouquet et al. discloses a microfluidic optical switch including: a fluid (90) contained in a reservoir having a characteristic; a first optical waveguide (96) having an end located proximate the fluid; at least one second optical waveguide (94) having an end located proximate the fluid; and an actuator (84) coupled to the fluid for exchanging changing the characteristic of the fluid, wherein the characteristic is a deformable interface formed on the fluid, wherein the deformable interface is a position of the meniscus. See the figures of the reference along with their respective portions of the specification.

Referring to claims 6, 7, 12, 13, 15 and 17, Fouquet et al. discloses all the limitations of the claimed invention. Fouquet et al. discloses a microfluidic optical switch including: a fluid (90) contained in a reservoir having a characteristic; a first optical waveguide (96) having an end located proximate the fluid; at least one second optical waveguide (94) having an end located proximate the fluid; and an actuator (84) coupled to the fluid for exchanging changing the characteristic of the fluid, wherein the characteristic a controllable refractive index gradient. See the figures of the reference

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along with their respective portions of the specification. Fouquet et al. discloses that the actuator (84) heats the fluid (90), causing it to vaporize, the vaporized liquid then has a different refractive index.

7. Claims 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,487,333 to Fouquet et al.

Referring to claims 4 and 5, Fouquet et al. discloses all the limitations of the claimed invention. Fouquet et al. discloses a microfluidic optical switch including: a fluid (404) contained in a reservoir having a characteristic; a first optical waveguide (421) having an end located proximate the fluid; at least one second optical waveguide (422,423) having an end located proximate the fluid; and an actuator (410) coupled to the fluid for exchanging changing the characteristic of the fluid, wherein the characteristic is a deformable interface formed on the fluid, wherein the deformable interface is a position of the meniscus. See the figures of the reference along with their respective portions of the specification. Fouquet et al. also discloses a liquid/liquid interface between liquids (406) and liquid (404). The pressure of the liquid (406) is controlled by the actuator (410), therefore the shape of the interface can be altered by the actuator.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 2 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,699,462 to Fouquet et al.

Referring to claims 8 and 14, Fouquet et al. discloses all the limitations of the claimed invention, except Fouquet et al. does not specifically disclose that the actuation (heating) is provided by an incident light. Instead Fouquet et al. has a heater provide the actuation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize incident light to provide the heating of the fluid since the applicant has not disclosed that this heating of the fluid by incident light solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any suitable heating source as the actuator.

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11. Claims 2 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,487,333 to Fouquet et al.

Referring to claims 8 and 14, Fouquet et al. discloses all the limitations of the claimed invention, except Fouquet et al. does not specifically disclose that the actuator is an electrohydrodynamic actuator. Instead Fouquet et al. has a piezoelectric transducer and working fluid to displace the fluid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an electrohydrodynamic actuator for displacing the fluid since the applicant has not disclosed that the electrohydrodynamic actuator solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any suitable fluid displacing device as the actuator.

Conclusion

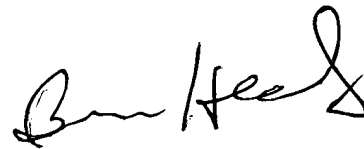
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KSW

A handwritten signature in black ink, appearing to read "Brian Healy". The signature is fluid and cursive, with a large loop at the end.

Brian Healy
Primary Examiner